OUTLINE OF RESEARCH PROPOSAL SUBMITTED FOR THE DOCTOR OF PHILOSOPHY (SCIENCE) DEGREE IN BOTANY.

Title of the Proposal: - **Floristic and Ethnobotanical studies of Jwahar Taluka, Dist. Palghar (MS).**

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1. INTRODUCTION

A flora is a systematic arrangement of the species of a given area or a particular region, usually restricted to a major segment of the plant kingdom with keys and descriptions and often illustrations, by the use of which determine the names and characteristics of the wild plants of the area. Floristic is the branch of botany dealing with the kinds and number of plant species in geographic areas and their distribution.The term Ethnobotany was first described by the ethnobotanist J.W. Harshberger (1895) encompasses entire studies concerning plants, which describe local people interaction with the natural environment. Schultes (1962) define it as the Study of relationship which exists between people of a primitive society and their plant society.

On 1st August 2014, Palghar became the 36th district of Maharashtra. Its history is alternate with its old district Thane. the talukas of Jawahar ,Mokhada, , Talasari, Vikramgadh, Wada, Dahanu, Palghar and Vasai were separated from the erstwhile Thane district to form a new district Palghar. Jawahar is one of the 8 talukas of palghar district. Since newly formed district there is no work has been done in respect to floristic and ethnobotany. Some refrences are on ethnobotany (Tosh 2012), (kulkarni2002) are available.

Jawhar taluka covers an area of 566.40 sq/km .it is a hill station located at 19.92°North latitudes and 73.23°East longitudes. It has an average elevation of 447 metres (1466 feet). Owing to its picturesque location and cool climate. It is also known as the Mahabaleshwar of Palghar district. The climate here is tropical. During most months of the year, there is significant rainfall in Jawhar. The average annual temperature is 24.8 °C. The rainfall here averages 3287 mm.the western part is bounded by Dahanu taluka, eastern part is bounded by mokhada taluka and southern part is bounded by wada taluka. 2

2. RATIONALE

India is one of the 17 mega biodiversity countries and accounts for about 10% of world flora. India like other countries of the world has a long history of conservation of its nature and natural resources. India has about 48,000 species of plants representing about 10% of the world's flora (Hajra & Mudgal, 1997).

Hooker and his associates describe 14,900 species (Angiosperms) in his 'Flora of British India' (1872- 1897). Talbot (1894) collected plants largely from southern part of Bombay Presidency. Cooke published 'Flora of the Bombay Presidency' (1901-1908) These volumes were reprinted with some corrections in 1958 by Botanical Survey of India.Gamble in (1987) published 'The Flora of the Presidency of Madras. The Flora of British India' by HOOKER (1872-1897) dealt with the flora of erstwhile British India. The first floristic account on the plants of Maharashtra was by Graham who published a catalogue of plants growing in Bombay and its vicinity (1809). This was then later on followed by Flora of Bombay by Dalzell and Gibson in(1861. Since then there have been various Indian workers who have worked out regional floras. Santapau (1953) published Flora of Khandala which came in three editions between 1953 and 1967. Flora of Maharashtra State by the Botanical Survey of India came in three volumes (1996, 2000, and 2001) which serve as an authentic and comprehensive literature for state botanists. B.G. Kulkarni wrote the Flora of Sindhudurg which got published in 1988. S.M. Almeida studied the Flora of Savantwadi from (1976, 1983) and published the same in 1990. In 2002, Yadav and Sardesai published Flora of Kolhapur.

Sacred groves are important ecological centers to study the potential vegetation. in western Maharastra IndGadgil and Vartak (1975,1980,& 1987) are the pioneers of scientific study in the field of ethnobotny and floristic.. Detailed information on the location, area, associated deities were available for 233 sacred groves from the district of Maharashtra by Gadgil and Vatrak (1981), jain(1989). Presence of groves in different parts of the country was recorded in the studies of Bor (1942), Sharma and Kulkarni (1980, 1983) Vartak and Kumbhojkar (1984), Vartak et al. (1986), Buch (1987), Mehere-Homji (1987) , Nair (1987), Induchoodan (1988), Nipounage (1988), Subramanayam and Sasidharan (1988), Rodger (1994), WWF of A.P (1996), Amrithalingam (1998), Shankar (1997), Tiwari et al. (1998), Rao (2002) etc. Upadhye et al. (1997) documented ethnomedico-botany of some sacred plants of Western Maharastra. Kothari and Rao (2000), contributed in the field of ethnobotany of Thane District. Kulkarni and Kumbhojkar (2007) have reported the Kitchen garden plants of 'Mahadeokoli' tribe.Tosh (1996) carried out ethnabotanical studies in western Maharatashtra in relation to legumes.

Several other refrences and articles are available on floristic and ethnobotany Vartak 1959; Kosambi 1962; Jain 1963b; Kosambi 1967; Rao *et al*. 1974; Kritikar *et al*. 1987; Vartak *et al*. 1987; Tosh 1988; Tosh 1988; Tosh 1996 and Trived *et al*. 2004). Chitre R.G, Deshpande ,Smita, Naik and Nimbalkar (1983), Karthikeyan S., Nayar M.P and Sunder R., (1981). 3

3. AIMS AND OBJECTIVES

Present study is aimed to record floral diversity of Jawhar taluka with collection of ethnobotnical data.

Following are the objectives of the present work.

- Study and Exploration of Floristic diversity with collection of maximum species from all parts of study area.
- To collect seed samples (germplasm) of available species from study area that will help to propogate useful, some rare and endangered wild plants.
- Study and Collection of Ethnobotanical data from Tribal people like,
  - Ethnomedicinal (Wild Plants used as Medicine by Tribal People)
  - Ethnoreligious (Wild Plants used in various religious activity by Tribal People)
  - Wild edible (Wild Plants used as food by Tribal People)
  - Miscellaneous uses (Uses includes plants used as fiber, fodder, garland, jewelry making, house making, house hold articles etc.)

4. METHODS AND MATERIALS

 To collect plants specimens as well as information like their habit, habitat, flowering time, flower color, fruiting time in different seasons from all the areas of Jawhar Taluka.

 To Identify, Preserve (Dry Preservation and Liquid/Wet preservation) and Procure Plant specimens in the form of Herbarium for future references.

 To collect seed samples (germplasm) for propogation of wild beautiful and rare plants.

 To preserve plant images through Digital Photography.

 To collect and document Ethnobotanical plants data which are used by the residing tribal population and aborigines in their various social, cultural and religious activities.

5. EXPECTED RESULTS

The unique phytogeographical conditions evolved over the years has molded the present ecosystem of Jawhar taluka which can be noticed in the form of diversity in wild angiospermic flora and needs to be documented before it is wipeout. Jawhar taluka is blessed with good number of residing tribal communities like Warli,Malharkoli, Mahadev koli, Katkari,Dubla, Dhodi and Kokna .Tribal communities living in interior portion of the taluka rely on plant for curing their ailments and make use of plants in their day to day activity hence such Traditional knowledge needs to be documented as it is passed orally from generation to generation. Our work is an attempt to procure important plant specimen in the form of herbarium and traditional knowledge in the form of manuscript.

Sacred Groves or devrai are reservoir of plants untouched on the grounds of belief on natural deity and hence reflects great biological diversity. Deforestation, industrialization, and unplanned civilization have become a threat to this protected area.

Herbarium and digital photography is a way of procuring existing wild flora for future research. Germplasm collection can help in maintaining biological diversity in future. 6

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